

NORTH PACIFIC OCEAN

551.506 (265.2)

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December, 1926, was one of the stormiest months in recent years on the North Pacific Ocean. Gales of force 9 or over were of daily occurrence. Storm winds were reported on at least 10 days, and hurricane velocities are known to have been experienced by vessels on 6 days. Very sharp gradients and rapid fluctuations in the Aleutian Low caused more gales than usual along the eastern half of the northern steamer routes, and several hard Asiatic storms swept with unwonted fierceness the waters between Japan and the 180th meridian.

Among the storms of the Far East, that of the 7th to 11th was the most notable, and was the worst of December for any part of the ocean. It entered the Yellow Sea from China as a shallow depression on the 6th, closely followed by an anticyclone of great magnitude from Siberia. It deepened rapidly on the 7th and 8th, during which time it traversed Japan from south to north, causing southerly to westerly gales and snows over a great part of the archipelago and neighboring waters. Whole gales to hurricane winds occurred intermittently on the 8th and 9th over a considerable part of the area from 30° N., 135° E., northeastward to 50° N., 170° E., while in scattered localities within or near this region forces up to 11 were encountered on the 6th and 7th, and up to 10 on the 10th and 11th. On the 8th the pressure gradients along the 32d parallel were very steep, the barometer readings ranging between 30.80 inches over China in 116° E., and 29.20 inches, in 137° E.

Two subsequent storms of this region were those of the 14th to 19th and the 20th to 24th, both of which caused strong gales over the western Pacific north of the 25th parallel, between the 135th and 170th meridians of east longitude. On the 18th and 22d winds of storm force occurred near southeastern Japan, and on the 19th, near 45° N., 165° E.

In consequence of the pronounced anticyclonic activities over southeastern Asia, a strong northeast monsoon prevailed along the coast, rising in force to 10 over the northeastern part of the China Sea on the 23d and 24th.

High winds occurred in the neighborhood of Midway Island on the 1st, 6th, 7th, and 8th—reaching the force of a storm on the 7th—in conjunction with the far-reaching fluctuations of the Aleutian Low, then near or to the southward of Dutch Harbor.

This Low showed much activity during December, reinforced considerably as it was by the entrance of the Asiatic cyclones previously mentioned. It oscillated considerably from day to day between the middle Aleutians and the eastern part of the Gulf of Alaska, but its average center was near Kodiak, where the monthly pressure was 29.33 inches, a quarter of an inch below the normal. At Dutch Harbor pressure was low except from the 8th to 12th, at which time a remarkable increase occurred. Here the minimum reading of the month, 28.56 inches, on the 7th, was followed on the 10th by the unusually high maximum of 30.72 inches, thus accomplishing in three days a pressure change of more than two inches. Frequent high winds in northern and middle latitudes attended the movements of the Low, although the severest gales, those reaching force 11, were localized near 48° N., 162° W., on the 2d and 6th. Offshoots of the main disturbance entered the American mainland on

ten days. At the end of the month the Low had spread well over the eastern part of the ocean north of the 35th parallel, causing stiff gales off the Washington and Oregon coasts and to the northward. On the 28th a force of 11 was encountered by the *Steel Age* off Vancouver Island, and a southerly gale with a maximum velocity of 66 miles per hour was registered by the Weather Bureau Station at Tatoosh Island. On the 29th the American steamer *Pacific* reported a hurricane wind off the upper Oregon coast. These occurrences were followed by lesser gales in the same locality until early in January.

The North Pacific permanent HIGH, normally central in December near 32° N., 138° W., covered very nearly its usual position—though with considerable daily changes—except on the first and last few days of the month, when its place was largely occupied by the Aleutian Low.

The following table of pressure data gives further indication of barometric conditions east of the 180th meridian:

TABLE 1.—Averages, departures, and extremes of atmospheric pressures at sea level at indicated hours, North Pacific Ocean, December, 1926

Station	Average pressure	Departure from normal	Highest	Date	Lowest	Date
	Inches	Inch	Inches		Inches	
Dutch Harbor ¹	29.41	-0.17	30.72	10th.....	28.56	7th.
St. Paul ¹	29.56	-0.05	30.76	10th ²	28.90	26th.
Kodiak ¹	29.33	-0.25	30.44	11th.....	28.66	30th.
Midway Island ¹	30.02	-0.02	30.28	25th.....	29.58	5th.
Honolulu ²	30.01	0.00	30.19	27th.....	29.85	14th.
Juneau ²	29.66	-0.13	30.54	12th.....	28.86	30th.
Tatoosh Island ²	30.01	+0.04	30.57	8th.....	29.26	1st.
San Francisco ²	30.10	-0.01	30.49	27th.....	29.73	2d.
San Diego ²	30.02	-0.02	30.45	28th.....	29.66	4th.

¹ P. m. observations only.

² A. m. and p. m. observations.

³ 30 days.

⁴ Corrected to 24-hour mean.

⁵ And other date.

At Honolulu pressure was normal, but the average temperature, 75°, was next to the highest on record for the month. The prevailing wind direction was east, and the maximum velocity, 34 miles from the east, on the 25th. The average hourly velocity at the station was 7.4 miles, but for the 24th to 28th, inclusive, was 16.5 miles. The total precipitation was 1.93 inches, which is 2.03 inches below the normal. Precipitation was slightly below normal, also, along much of the American coast, except southern California and to the northward of Washington. At Juneau the total of 14.43 inches exceeded by 1.10 inches the previous December record. Here 31.3 inches of snow fell.

Fewer gales than usual occurred off the tropical American coast. Northers of force 8 to 9 were reported by vessels in or south of the Gulf of Tehuantepec on the 29th and 31st.

The December occurrence of fog varied considerably from that of the previous November. A marked decrease was noticed along the American coast, where it was reported on only three days this month. In east longitudes fog was reported on the 27th only, whereas it was noted on six days in November. However, fog increased perceptibly in the region between 32° and 52° N., 130° and 170° W., where the phenomenon was noted scattering on 15 days.